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SOCIAL DYNAMICS AND INFANT FEEDING PRACTICES IN NORTHERN GHANA.

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Abstract

Infant feeding practices have been identified as one of the major determinants of children's nutritional status and account to a large extent for the high rates of malnutrition among children in Ghana. The relationship between breastfeeding and especially exclusive breastfeeding and child health and birth spacing in developing countries is well documented. However for the age group 0-6 months, although breastfeeding is widely practiced in Ghana, studies indicate that only 8% of children under 4 months are exclusively breastfed and 45% are given some form of supplementary feeding by age three months. Despite efforts of Health Workers to increase the percentage of exclusively breastfed babies, not much success has been achieved, because feeding practices are often difficult to change as they are directly related to varied economic, socio-cultural and religious factors in the community and to various dynamics prevailing at the household level.

Employing mainly qualitative research methods, this paper examines infant feeding practices of women with children 0-6 months in two areas in the Bawku East District of Ghana and analyses the role of socio-cultural factors, household and gender dynamics as determinants of infant feeding practices and child nutrition. It argues that the existence of beliefs and value systems especially with regard to the cultural administration of water is central to conflicts with exclusive breastfeeding recommendations of WHO and UNICEF.

The paper recommends that policies that seek to improve infant and child health status in developing countries, must recognise and understand the broad complex of dynamics operating at the household and community level affecting feeding behaviour. It also requires that women's knowledge and perceptions on infant feeding are recognised and valued to ensure sustained changes.

Résumé

Les pratiques alimentaires de l'enfant ont été considérées comme l'un des principaux déterminants de leur statut nutritionnel. Elles expliquent dans une grande mesure, le taux important de malnutrition parmi les enfants ghanéens. La relation entre l'allaitement maternel, surtout l'allaitement maternel exclusif, la santé de l'enfant et l'espacement des naissances dans les pays en voie de développement est bien documentée. Cependant, bien que l'allaitement maternel pour le groupe d'âges 0-6 soit largement pratiqué au Ghana, des études montrent que seulement 8% des bébés de moins de 4 mois sont exclusivement nourris du lait maternel, 45% des bébés de trois mois reçoivent un supplément de nourriture autre que le lait maternel. Malgré les efforts faits par le personnel de la santé pour augmenter le pourcentage des bébés nourris exclusivement du lait maternel, la réussite n'a pas été satisfaisante, parce que les pratiques alimentaires restent souvent difficiles à changer. Ceci s'explique par le fait que les pratiques alimentaires sont directement liées à de divers facteurs économiques, socio-culturels et religieux dans la communauté. Elles sont aussi liées à plusieurs dynamiques au sein de la famille.

La communication, en s'appuyant principalement sur les méthodes de recherche qualitatives, fait l'examen des pratiques alimentaires infantiles chez les femmes dont les bébés sont âgés de 0-6 mois

dans deux milieux du district de Bawku Est du Ghana. Elle analyse également le rôle que jouent les facteurs socio-culturels, les dynamiques de genre et le foyer dans le choix des pratiques d'allaitement et de nutrition de l'enfant. La communication avance l'argument que l'existence des systèmes de croyance et de valeur surtout la gestion culturelle de l'eau, constitue le point central des conflits qui rendaient les femmes réfractaires aux recommadations de l'OMS (Organisation Mondiale de la Santé) et de l'Unicef pour l'allaitement exclusif des enfants.

La communication propose que les politiques qui ont pour but d'améliorer l'état de santé du bébé et de l'enfant dans les pays en voie de développement, doivent prendre en compte et comprendre l'énorme complexité des facteurs qui influent sur le comportement alimentaire au niveau du foyer et de la communauté. La communication exige aussi que la connaissance et la perception des femmes en matière de nutrition des enfants soient reconnues et appréciées afin de garantir des changements durables.

Introduction

Malnutrition is a major cause of infant and child mortality in Ghana. In 1998 for example, it was estimated that among children aged 0-36 months, 26% were stunted, 31% were underweight and 12% were wasted (Ghana Statistical Service, 1999). The problem is even more acute in the Northern Savanna Zone, where ecological conditions and higher levels of poverty have resulted in high malnutrition and consequently high morbidity and mortality rates.

Infant feeding practices have been identified as one of the important determinants of children's nutritional status and account to a large extent for the high rates of malnutrition among children in Ghana. The impact of infant feeding practices on the health of children and the importance of encouraging breastfeeding has gained increasing recognition in recent years. Breastfeeding plays an important role in developing countries because of its relationship with child health and birth spacing. Several studies have shown that breastfeeding has beneficial effects on the nutritional status, morbidity and mortality of young children. Breastfeeding is also associated with longer periods of postpartum amenorrhoea, which in turn leads to longer birth intervals and lower fertility levels. (Huffman and Combest 1990). Thus UNICEF has made the promotion of breastfeeding as one of the major components of its strategy to improve child survival. Current breastfeeding recommendations include the promotion of exclusive breastfeeding for the first six months of life, thereafter breastfeeding with complementary nutritive foods well into the second year of life (WHO 1989; 1993). The Ghana Ministry of Health is promoting these WHO/UNICEF recommendations.

Exclusive breastfeeding is defined as the use of breastmilk as the only source of food, to the total exclusion of other supplementary foods such as formulas, water, juices or teas (Labbok and Krasovec 1990; WHO 1989). Several studies have shown that exclusive breastfeeding for the first six months is beneficial to both infant and mother and enhances child health and survival (Dewey et al 1993; WHO 1989; 1993). In resource poor settings, exclusive breastfeeding is especially crucial as it among other benefits, maximizes intake of breast milk and avoids exposure to potential sources of contamination thus preventing many infections. Early supplementation, especially in areas where sanitation is poor and household water supply is unsafe, can result in infection and lower immunity levels. Infants who are exclusively breastfed have lower risk of exposure to and less severity of diarrhoeal diseases compared to infants who received food supplementation. Infant mortality rates are five times higher for exclusively bottle fed infants, three times higher for mixed fed than for those exclusively breastfed (Huffman and Combest 1990; Davies-Adetugbo 1997). Clearly then, breastfeeding is associated with a lower risk of morbidity and mortality among infants and exclusive breastfeeding is associated with the lowest risks.

Child survival strategies therefore recommend exclusive breastfeeding for the first six months of life. However evidence particularly from the developing world indicates that exclusive breastfeeding is rare and early supplementation with water, teas or juices or other fluids is the norm (Davies-Adetugbo 1997; Ghana Statistical Service 1999a; Semega-Janneh et al, 2001).

In Ghana breast-feeding is nearly universal. 97% of all children born in the past five years were breast fed for some time (Ghana Statistical Service, 1999a). Even after age 6 months when food supplementation becomes necessary, breastfeeding may continue until after the child's second birthday. However for the age group 0-6 months, although breastfeeding initiation is widely practised in Ghana, with an average duration of 20.4 months, only 17% of children under the age of six months are exclusively breastfed, with 38% fed on breastmilk and water or water based liquids. Food supplementation starts very early. By age 2-3 months, 45% of children are breast feeding and having some form of food supplementation. (Ghana Statistical Service, 1999). Exclusive breastfeeding rates are even lower in the northern part of Ghana, where child malnutrition and resultant morbidity and mortality rates are highest.

Despite efforts of health care providers to promote exclusive breastfeeding, not much success has been achieved, as feeding practices are often directly related to varied economic, socio-cultural and religious factors in the community and to various dynamics prevailing at the household level. Crucial among these as determinants of the nutritional and health status of infants and young children are the socio-cultural factors particularly the knowledge, attitudes, beliefs, norms and customs of a community. However, studies on infant and child nutrition often focus on health related aspects, often neglecting the range of factors affecting the care giving environment and the complex range of factors operating at the household and community level which ultimately affect feeding behavior.

Employing mainly qualitative research methods, this paper examines infant feeding practices of women with children 0-6 month in the Bawku East District of Ghana, in the context of WHO/UNICEF recommendations, and analyses the role of socio-cultural factors and household dynamics as determinants of infant feeding decisions and child nutrition. It also discusses the implications of breastfeeding behavior for program design and policy in Ghana.

Data Collection

The study was undertaken between the period November, 1998 and May, 1999 in the Bawku East District of Ghana. The study employed mainly a qualitative and participatory research approach using trials of improved practices (TIPs) as core method.

Two study sites were selected from the District, Bawku town, an urban area and the District Capital, and Garu-Tangzug, a rural settlement located 30 kilometers from Bawku town. The selection of the two areas as a study site therefore served as a basis for examining the infant feeding practices among mothers of varied ethnic groups, socio-economic backgrounds and residence (rural/urban) patterns.

A sample of 30 mothers with children aged 0-6 months were randomly selected from households with the target population of children 0-6 months, from the two study sites. These 30 mothers formed the core study subjects. 24 Key informant and in-depth interviews were also undertaken with community, opinion and religious leaders, traditional healers, traditional birth attendants (TBAs), mothers, grandmothers/mothers-in-law, in the two study sites, as well as Health Care providers and Policy Makers at the regional and district levels. Focus group discussions, 24-hour dietary recall, Food Frequency Assessments and observations were also undertaken. Discussions centered on the cultural perceptions of breastfeeding and infant feeding in general, the first events including first feeds after birth, exclusive breastfeeding, expression of breastmilk and wet nursing, methods for enhancement of lactation, breastfeeding taboos and problems, other foods and weaning. These provided an understanding of the knowledge, attitudes, practices and community perceptions and images pertaining to child feeding.

Trials of improved practices (TIPS) (Dicken et al 1997) were the main method used. Using a three-visit protocol, exclusive breastfeeding recommendations were tested in homes by discussing possible improved practices, negotiating specific practice changes and obtaining an understanding of the constraints and motivations for each practice change.

The Setting

The Bawku East District is located in the North-Eastern corner of Ghana. It is bounded by the Republics of Burkina Faso and Togo to the north and east. The international boundaries have serious implications on health service delivery in the district. The vegetation is mostly semi- arid and sparse shrubs and trees. Population density is high with an average of 87 persons per sq. km, which is the nations highest outside of the capital region of Greater Accra. Densities in the cultivated areas of Bawku East District reach 270 persons per sq. km. As a result, good quality farmland is limited, consequently posing a severe strain on household resources and incomes.

The primary economy of the District is subsistence farming, with wholesale and retail trading activities taking place mainly in the towns. Crops grown are cereals, legumes and vegetables in the rainy season, and vegetables especially onions and tomatoes in the dry season under small irrigation schemes. Livestock are also reared. Men are mainly responsible for cattle rearing while women rear smaller animals such as goats and poultry.

Irregular rainfall and declining soil fertility have resulted in low crop yields and inadequate levels of food production, thus making the district a food deficit region. Compared to the rest of the country, the area experiences shortages of food with greater intensity because of the single rainfall season and the frequency of drought. The situation is further compounded by the fact that basic cash crops in the region are also food crops and many rural households sell off food crops to satisfy non-food needs, often leading to a long pre-harvest "hungry season" from about February to July. These factors coupled with limited opportunities for off-farm sources of rural employment have resulted in high levels of food insecurity and poverty in general. Welfare indices in the region are among the lowest in the country. Only 33% of the total number of children of school going age,(5-14 years) were enrolled in primary and Junior secondary school in 1996 (five-year Medium Term Development Plan, Bawku East, 1996), and access to health care facilities is poor.

The poverty level is one of the highest in the country with 71% living below the poverty line compared to a national average of 40% (Ghana Statistical Service 1999b). In defining the parameters of the poorest in the society, women are particularly vulnerable because they do not control the agricultural resources and do not have the same opportunities as men to migrate because of their reproductive roles. The child malnutrition rate in the District based on weight-for-age assessment is one of the highest and is on the increase (Presbyterian Church of Ghana 1998).

The District is heavily influenced by migration of mostly young men, but sometimes of whole families to the southern part of the country. The pattern of migration has changed from the initial colonial period when forced labour conscription from northern Ghana to southern Ghana mines and cocoa plantations was official policy, to the present where environmental pressures and the relative shortages of land have forced seasonal as well as permanent patterns of migration from the area.

Household Organisation and Gender Relations

A majority of people in the district live in compounds made up of clusters of circular mud huts thatched with grass. More wealthy households use cement blocks and roof with aluminum sheets. The size of each compound depends on the number of wives and adult sons in the household. Polygynous marriages are the norm. Each wife occupies separate quarters within the extended family compound.

However the compound may include a number of "households" or production / consumption units. Each compound is headed by a "Head" or "Landlord". This can mean that any one compound may house large numbers of adults and children, all dependent on the same portion of farmland.

The traditional household structure in the district is based on male headed units of extended families, with a clear division of economic responsibilities of ensuring the welfare of all household members based mainly on age and sex. Men are regarded as household heads and breadwinners and charged with the responsibility for the welfare of all household members. Women mainly supplement household income, as well as providing their own personal needs. Women were also primarily responsible for all reproductive activities including all child care, cooking, collecting water and fuelwood. Child bearing and caring roles are mainly the direct responsibility of mothers, under the supervision of mothers-in-law where they are present in the household. Fathers play a limited role of provision of financial support. Household decision making is mainly taken by men sometimes in consultation with women. Decisions on health care attendance are however mostly taken by mothers and mothers-in-law.

However, with increasing social change, several changes have occurred in the structure of the household as well as in gender divisions of labour in reproductive tasks and the responsibilities associated with these, with women taking on a large part of household responsibilities for the daily needs of households. Despite these changes, women's traditional responsibility for reproduction and productive tasks have remained, while new gender roles have been added, thus increasing women's workloads (Awumbila and Momsen 1995).

The household in the Bawku East District is structured with status being principally determined by sex and age, thus creating hierarchies headed by senior males. The woman's image and status in the society is viewed within her maternal role. Her prestige, security and the harmony of her family relationships are dependent on the number of children she bears and rears. The woman's status in the family is subordinate to men's. The subordinate position of women is reinforced by social norms and religious beliefs, and an inheritance system which precludes wives from inheriting their husband's property, including land, such that women are under the control and authority of males throughout their lives. Thus the society is in essence a male dominated one with women having unequal access to several resources compared to men.

The society is based on a patrilineal and patrilocal system of gender relations. Thus land and property are passed on from father to sons. Distribution of a Landlord's assets on his death has implications for all members of the extended family. All male members of the extended family have a title to his assets. All sons are entitled to a portion of land and some livestock. Each son's share of land and assets is in proportion to his age and seniority with the youngest receiving the smallest portion. A woman's food and livelihood security may depend on a very complex set of familial relations. These would include whether she has sons or not, whether they are older sons, whether if she has a son his share of the land is enough to support his wives and children and herself etc.

Women's access to resources in the District, as found in other parts of Ghana, is substantially less than that of men. Women's access to, ownership and control of productive resources are to a large extent determined by kinship systems headed by men in families, and customary laws, norms and practices that give men control over land and other resources owed by the family. Women's limited access to productive resources has been suggested as key to understanding their subordinate position in society and to explaining gender inequality in Ghana (Robertson and Berger 1986).

For example, land relations, which are critical to women's rights in the District due to the central role of agriculture in meeting livelihood needs, often reflect gender, class and kinship relations and are implicated in their reproduction. The major ways in which women acquire rights in land is mainly through their lineage, through marriage and through contractual arrangements. Women's access to land is however affected by tenurial arrangements and inheritance systems as well as land use patterns.

The land tenure system in northern Ghana is characterised by communal ownership, with individual descent groups headed by men owing portions. Thus theoretically, each member of a kinship group, male or female has rights to land by virtue of membership of the group. However in practice, the situation is different. The authority to decide on land allocation to individuals is delegated to male descent group heads or households heads, with women's access depending on the goodwill of male members of the kin groups. A woman's rights to land are therefore through men, husband, brothers, fathers or sons. Secondly, most of the land allocated for farming is inherited under a patrilineal system of inheritance with the majority of women deriving their use-rights from husbands. Wives do not inherit from their husband's property, and remain in a disadvantageous position. As a result of these gender inequalities, women's farms tend to be smaller than men's farms (Awumbila and Momsen 1995).

Domestic level changes in land use have however occurred over the last few decades, which have affected women. In polygynous households, women are now frequently given the use of portions of their husband's land for growing cash crops. In some communities where there is less pressure on land, women are occasionally granted use of uncultivated land, but this is uncommon and would only apply to women who are heads of households.

These household and gender dynamics have implications for decision making in the household and particularly for infant feeding choices and options that women make.

Current Infant Feeding Practices

Initiation of Breastfeeding

Breastfeeding is almost universal in the Bawku East District with average duration of 24 months and a maximum of 48 months. It is considered good for both baby and mother, nutritionally ideal for baby, convenient and cheap. However practices regarding initiation, frequency and duration and introduction of supplementary feeding vary.

Breastfeeding starts a few hours after delivery to three days after birth depending on the type of influence from mother-in-law and the mother's exposure to health/nutrition information. The average starts between 4-12 hours after delivery. A few women initiate breastfeeding after two days and attribute this delay to the need to wait to have "blood" breastmilk converted to "good" milk. In such cases, some women depend on a wet nurse until the milk appears acceptable – a declining practice. Others give water or herbs until the second or third day before giving breastmilk to the babies, in situations where there is no other breastfeeding mother within that vicinity. This was to purge the baby and clean the stomach.

Most mothers use both breasts to feed their baby at a feed. The general perception was that, both breasts have the same quantity and quality of breast milk. A quarter of women, predominantly in the urban area, perceived each breast as performing a different function and therefore the need to feed from both breasts at each feed. The left breast was perceived to provide food, while the right provides water. Hence the "food providing breast" must always be given to the child for longer periods than the "water providing breast". These women were mainly from ethnic groups whose origins are in Burkina Faso, Togo and Niger. Hence this perception was more common among the migrant population of Bawku.

There appeared to be some differences in the timing of initiation of breastfeeding by residence. Babies born to urban mothers were more likely to be breastfed within three hours of birth (80%) than babies born to mothers in rural areas (13%). Of the five babies breastfed after 12 hours, four were from the rural area. The Demographic and Health Survey in 1998 (Ghana Statistical Service 1999a) similarly found that urban babies and babies of mothers with at least secondary education were more

likely to breastfeed within an hour of birth. This difference by residence is probably due to the influence of health education and intervention measures to promote exclusive breastfeeding in the urban area of Bawku.

Gender and Breastfeeding

Although the findings did not indicate any current gender differentials in the timing of breastfeeding initiation, or in the introduction of non-breast milk food, in-depth interviews with grandmothers, traditional healers and birth attendants revealed that these differences existed in the past. Traditionally baby boys were breastfed after three days while girls were breastfed after four days. This practice appears to be linked to the culture in the area where even numbers are associated with females and odd numbers with males. Thus funerals of males are performed over a period of three days and four days for females, females are buried with four cowries and three for males.

Colostrum and Prelacteal Feeds

The role of colostrum in fighting infections and promoting growth and development of the newborn is widely acknowledged. Colostrum feeding has been found to decrease infant morbidity especially in developing countries by reducing the risk of diseases and infections such as diarrhea, gastroenteritis, respiratory and other infections (Huffman and Combest 1990; Holman and Grimes 2001). This role is often mediated by differences across cultures in the acceptability of colostrum and the prevalence of prelacteal feeding. The feeding of various substances prior to the first breastfeed has been reported in many communities around the world. A common reason for giving pre-lacteal feeds is often the rejection of colostrum as unclean or unwholesome and in some cultures the belief that it is harmful.

In the Bawku area, although colostrum is traditional perceived as dirty and unwholesome, discarding of colostrum is currently not widely practiced. About three-quarters of babies were given colostrum, which supports earlier findings in the area (Abugri and van der Heide 1997). A quarter of mothers however thought that colostrum should be expressed and discarded and that breastfeeding should not be initiated until "white or clean milk" begins to flow. The practice of discarding colostrum was higher in the rural area (40%) than in the urban area (14%), probably indicating the influence of health education and public health interventions and urbanisation on child feeding practices. The main reasons given for discarding colostrum were:

- It is "dirty" and can cause baby to contract disease
- It contains blood or pus and is therefore not good for babies.
- it causes abdominal pains, diarrhoea and other digestive problems
- It is bad blood, which has stayed in the breast for nine months of pregnancy.

A universal name for colostrum did not exist in any of the local languages. Instead colostrum was referred to in Kusaal language as " first milk, yellow milk, dirty milk or dense milk" interchangeably. During in-depth interviews, the similarity between colostrum and pus or blood was often noted. Breast milk only became pure or clean after it had changed from yellowish to the whiter color of mature milk. While waiting for "clean" milk to flow, women would use a wet nurse to provide breastmilk to their babies or give water with herbs. The practice of wet nursing was however noted to be on the decline in the area due to health/nutrition information and education. Many mothers now see this practice as promoting infection. The practice now was to give babies water with herbs while waiting for "clean" milk to flow.

Exclusive breastfeeding

Only a third of children 0-6 months were exclusively breastfed. More mothers in Bawku town (40%) were practising exclusive breastfeeding compared to the rural area of Garu-Tanzug (26%). The introduction of prelacteal feeds especially water prevented the practice of exclusive breastfeeding. Warm water is typically given to baby within the first hour to 3 days after birth. Shea butter, glucose and herbs are put into water solutions. The main reason for giving water early is for religious and customary purposes, that is, to fulfil the custom of welcoming visitors including "newborns" with water as a sign of welcome.

Some mothers add shea butter (to fill the stomach) or herbs (such as *Sampuliong* among the Kusasi ethnic group, to stop navel pains) to the water. Other substances given are gripe water (to stop naval/stomach pains) and special water washed from a slate on which Islamic verses had been inscribed, for protection against diseases. Some reasons assigned for giving water at this tender age include to:

- Fill stomach and induce sleep
- Promote abdominal comfort, and stop navel pains
- Stop heartburn and hiccoughs
- Quench thirst after struggling during labour period
- Lubricate/moisten throat of the baby
- Welcome the baby into the world. Every living thing must be given water.

When mothers were asked if they thought exclusive breastfeeding for six months was possible, they thought it would be difficult. The major reason given was the infants need for water. There was the general perception that water is essential for an infant's normal growth, to quench thirst and to promote digestion. Breastfeeding without supplementary water is "not possible, the baby will become thirsty" and will not develop normally. However the major reason attributed for introducing water during focus group discussions was to fulfil the custom of welcoming visitors including "newborns" with water as a sign of welcome. As one grandmother summarised, "It is bad to deny a new born child water. When that is done the child will return to God and will report that s/he has been denied water. Because s/he was not wanted. Water is life."

Expression of Breastmilk

To facilitate exclusive breastfeeding, the use of expressed breastmilk is recommended by health officials when the mother is away from home. In the study area, the use of expressed breastmilk was culturally unacceptable. None of the lactating mothers, traditional birth attendants, grandmothers nor health workers ever expressed breastmilk nor recommended it for practice. It was perceived as a "bad" practice because it could easily be contaminated, poisoned, bewitched or turn sour and cause illness. Health workers thought it could become contaminated if not refrigerated, and therefore it was unsafe for the rural environment. They would prefer that water be given to baby in the mother's absence.

Supplementary Feeding and the Weaning Process

Figure 1 summarises the feeding patterns and the sequence of weaning in the Bawku East District. Food supplementation starts by age two months with porridge (*koko*) made from fermented millet or corn dough with little or no sugar. The consistency of the porridge is initially light and often diluted with water, but made thicker as the child grows older. By age four months, 40% of children in the sample were breastfeeding and having some form of supplementation. Semi-solid foods such as thicker porridge and soups are introduced from 4 months. By six months solid foods such as mashed yam, *tuo zafi (TZ)* and

soup are introduced. Other supplements are orange juice and weanimix. No gender differentials were observed in weaning patterns.

The introduction of non-breastmilk was not common in the area due to its expense and inaccessibility. Women in the urban area were more likely to introduce milk formula than rural women. Among reasons given was the perception that they lacked enough breastmilk and to make babies grow fast and healthy. The general perception was that breastmilk is better than infant formula, makes babies healthier, and protects the child against diseases such as diarrhoea. It was also perceived to make the child more intelligent and wise. Breastmilk was also seen as free and always available.

Figure1
Feeding Patterns of Infants in the Bawku East District

Food or Drink	Days				Rest of Month	2	3	4	5	6
	1	2	3	4						
Prelacteal Feed	x	x	x							
Water	x	x	x	x	x	x	X	x	x	x
Glucose solution	x	x	x	x	x	x	X	x	x	x
Fruit (orange) juice							X	x	x	x
Breastmilk	x	x	x	x	x	x	X	x	x	x
Diluted Porridge (koko)						x	X	x	x	
Weanimix							X	x	x	x
Thicker Porridge								x	x	x
Tuo and Soup									x	x
Adult food									x	x

Source: Fieldwork, 1999

Several factors influence a woman's decision to introduce supplementary feeding, among which are the belief that if solids are not introduced early enough the child will not learn how to eat, the need to protect the mother from loosing too much weight; as well as mother's need to work away from home, mostly in the markets or on farms. As discussed earlier, the major occupations of women in the district are retail trading in the urban areas and subsistence as well as cash crop farming in the rural areas. Trading of foodstuffs and consumables such as sugar, milk and soap means that women often have to travel long distances outside Bawku and into neighbouring Burkina Faso and Togo to purchase items for sale. They also spend long hours in the markets retailing these items. For the majority of women in the rural areas, their labour is critical on the household farm on which millet and sorghum are grown for household use, as well as on their own private fields on which are grown crops such as groundnuts and beans for sale. As a result children are often left in the care of older siblings at home. This has implications for infant feeding practices in the area.

The weaning process is usually completed in between 24 to 48 months. However breastfeeding can be terminated prematurely if the lactating mother becomes pregnant. Pregnant women are not expected to breastfeed according to Kusasi culture. If a pregnant women breastfeeds, it is believed that both the

breastfeeding child and the fetus could be harmed. Cessation of breastfeeding with pregnancy has been found in several other cultures (Dettwyler 1986).

Household Dynamics and Feeding Practices

Family and household members including husbands, mothers and mothers in law, all have been observed to have an influence on infant feeding. The household among the Kusasi and other ethnic groups who inhabit the rural parts of the District is a complex social institution in which various forms of hierarchy come together to give clear lines of super-ordination and subordination, with the status markers being age, gender and marital status (Whitehead 1981). The hierarchy in the household is reflected by the spatial arrangements of huts, which reflects the division of social space within the compound. A high status in the household is reflected by the proximity of location of one's hut to that of the household head.

Women pass through various stages in their life course from being a young unmarried adult, through early and late reproductive stages to the post childbearing stage, and these have their appropriate terminology in the Kusaal language. During each stage in the life course, females have clear-cut biological, economic and cultural roles. These stages are determined mainly by age, marital status and relationship to Head of the household, which in turn determine the status of a woman in the household and sometimes the type of tasks performed and the amount of time allocated to particular tasks, and her role in household decision making.

The Kusasi society is patrilineal, with patriarchal social structures in which women marry into a man's patrilineage and are expected to produce sons to ensure the future of the kinship group. The position of the young wife as the newest member of the lineage, required to earn approval from its older members, improves as she grows older, bears children and gains the right to assistance from younger wives, leaving her free to engage in activities outside the household. Responsibility for housework and childcare is progressively shifted to teenage daughters and then to the daughter-in-law and the senior wife's role rapidly becomes supervisory. Thus as women grow older and leave child bearing behind, they often gain considerable respect, power and economic control and take part in household decision making. Thus women's informal power tends to increase with age. The role of the mother in law in household decision making especially in terms of childcare and infant feeding is therefore crucial. Thus it is important to consider at the household level, ways in which women are not an undifferentiated category. Household relationships usually embody relationships of power, domination and subordination even among one gender, often based on age and gender (Wolf 1990). Strategies to improve on infant feeding need to recognise these dynamics at the household level and how they shape infant feeding decisions.

A key finding was that mothers-in-law were often the primary decision-makers regarding infant feeding practices. Elderly women and older co-wives in the household were also influential in feeding decisions. In nearly all households where the mother-in law was present, she played a dominant role in deciding breastfeeding initiation and the timing of the introduction of food complements and supplementary foods. This pattern occurred because of their higher status within the household and the extended family system. Although women generally have a lower status in the household compared to men, as they progress along the life course, moving from the status of a wife to a mother-in law and a grandmother, they gain power and authority in the household over women in the earlier stages of the life course. As a result, wives often hesitate to contradict the opinion of their mothers-in-law regarding feeding decisions and will often implement these decisions even when they contradict recommendations made by health professionals.

This indicates the need to target all-important actors in the community in breastfeeding intervention strategies. The dynamics at the household level and the role of mothers-in-law as influential persons

and as custodians of the customs and beliefs also needs to be recognized. Strategies which target only mothers, on the assumption that they are solely responsible for family nutrition, may fail to change infant feeding practices.

Beliefs, Values and Perceptions on Breastfeeding

Infant feeding practices, including whether and how to breastfeed, are supported in all cultures by a web of meanings and values. In Ghana, traditional beliefs and attitudes on appropriate infant feeding practices have important implications for the nutritional status of the child directly. In various parts of Ghana, various beliefs exist which tend to impact on child survival and health through for instance withholding breast milk from children for the first few days and infection through contaminated foods and fluids.

Knowledge about the socio-cultural factors affecting women's beliefs and attitudes, motivations and behaviour with regard to breastfeeding are often the least understood among factors affecting breastfeeding. The study observed the existence of cultural and social beliefs which encourage breastfeeding for a long duration, but also the early introduction of prelacteal feeds and food supplementation before six months, which inhibits the practice of exclusive breastfeeding. For example, the cultural / traditional value systems attached to the administration of water to new born babies as a sign of welcome was deeply rooted. Specifically, the custom that every visitor including the newborn must be welcomed into the family with water, otherwise the "visitor," in this case the newborn will "return" to where it came from, appeared to be very difficult to change. This belief was reinforced by the general perception that infants need additional fluids especially water to maintain their water balance. However studies show that exclusively breastfed infants do maintain adequate hydration even in warm climates (Sachdev et al 1991). A summary of beliefs and attitudes about breastfeeding are summarised in Table 1.

Implications for Policy

Thus an analysis of local knowledge and attitudes towards breastfeeding indicates that women have knowledge and perceptions on infant feeding which optimize the benefits of breastfeeding to mother and child, as recommended by WHO 1989; 1993).

These include:

- Breastfeeding is almost universal and of long duration (2-4 years)
- Breastfeeding is done on demand rather than to a schedule
- Breastmilk is perceived to be better than infant formula for healthy development of infants and for mother-child bonding
- Colostrum even though traditionally perceived as "dirty" is given by many mothers (three quarters) to stimulate milk production

There were however also other practices, which do not optimize infant feeding, which include

- Delayed initiation of breastfeeding (more than 12 hours)
- Discarding of colostrom by some mothers
- Prelacteal feeding with water and herbs, ritual fluids is the norm
- Exclusive breastfeeding is not widely practiced
- Early introduction of supplementary foods

Thus a "culture of infant feeding" exists in which breastfeeding is central, but exclusive breastfeeding is not widely practiced or accepted. Even though breastmilk is seen as the best food for infants, there is also a strong feeling that infants need water to survive and that breastmilk alone cannot provide all the nutritional needs of infants for six months. The study finds several practices which are in conflict with the practice of exclusive breastfeeding, but it finds that the most important conflict between local knowledge and beliefs and current breastfeeding recommendations is on the issue of giving water to babies. Perceptions on the infant's need for water both for nutritional (humans need water to survive) and especially for customary purposes (for life) implies that this practice may be difficult to change. This is particularly important in this context where only 16% of the population in the district has access to pipe borne water (Ghana Statistical Service 1999a). Unclean water is one of the major sources of contamination and infection in infants in developing countries, leading to higher rates of infant morbidity and mortality. It is therefore necessary that health care providers and policy makers recognize and understand these cultural factors in intervention programs to improve infant nutrition and child health.

Infant feeding and breastfeeding in particular is often best understood as a bio-cultural phenomena, that is influenced and determined by both biological and cultural factors, so that rather than look for one universal human strategy, the best method may be contingent on local and household environment, cultural customs and beliefs and the particular situation of mother and child. Within these, women negotiate practices within a complex web that includes their cultural beliefs, assessment of their own local environment and their child's nutritional status, as well as their own personal circumstances.

Conclusion

The implications of these findings are that efforts to modify infant feeding practices must take into account the many influences on feeding practices, and will need to recognize and understand the broad complex of factors and dynamics operating at the household and community level which affect feeding behavior. They also require that women's knowledge and perceptions on infant feeding are recognized and valued, and that all stakeholders participate in decision making if sustained changes are to be ensured.

Such considerations are of current importance especially in counselling regarding infant feeding options in HIV/AIDS response and prevention strategies. Strategies to prevent or reduce mother to child transmission (MTCT) of HIV/AIDS needs to take into account the range of perceptions and cultural values and issues on infant feeding in determining the best recommendations to give mothers, not only to minimize the risk of HIV transmission to infants, but also to minimize the high risk of morbidity, mortality and other problems related to infant feeding in resource poor settings. A better understanding of these issues will help inform policy options about infant feeding for all categories of women.

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Table 1:
Beliefs On Breastfeeding Practices In Bawku East District

Belief	Reasons/Perceived Cause	Effect on Mother/Child	Remedy/Treatment
Colostrum is not good for child	• It is water • It is dirty • It is blood or pus	• Child gets diarrhoea • Child does not grow well	• discard first yellowish milk • give water • use "wet nurse"
Milk is bad or spoilt	• Milk is watery • Milk has no taste • Ants inside breasts • Engorged breasts • Punishment from gods	• Child gets diarrhoea	• use herbs e.g. sampuliong" • conduct milk "test" • pacify gods
Lactating mother should not eat certain foods, e.g. slimy soups	• makes breastmilk bad/slimy • does not enhance milk production	• lack of breastmilk	• eat legumes e.g. groundnuts and vegetables
Do not breastfeed while lying down	• Milk can pass through ears of baby	• Ear Infection	• Always sit up to breastfeed
Baby must be given water after delivery before breastmilk	• Every visitor or stranger must be given water as a welcome sign	• If water is not given, child may "return" i.e. die.	• Must be given water soon after birth.
Each breast has a different function. Left breast is food and right is water	• Left breast is bigger than right one	• Left breast produces more milk than right one	• Always feed more on left breast

Source: Field work, December, 1998